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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,884	11/09/2001	Joseph U. Han	5943	6429

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Boniard I. Brown
1500 West Covina Parkway, #113
West Covina, CA 91790-2793

EXAMINER

GORMAN, DARREN W

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,884

Applicant(s)

HAN ET AL.

Examiner

Darren W Gorman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 18 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-13, 16 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-6, 14, 15, 17, 19 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on April 12, 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The replacement drawings were received on April 12, 2004. These drawings are acceptable with regard to correcting the objections noted in the Office Action filed October 8, 2003, under paragraph 4. However, with the addition of claims 23 and 24 in Applicant's amendment filed April 12, 2004, the following objection to the drawings is proper.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "generally planar" reflector surface must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 23 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 23 and 24 recite, "wherein said reflector surface is generally planar", which was not described in the originally filed specification. Applicant's specification clearly discloses "the reflector surface is of generally convex configuration and typically is convex in directions 90° apart" (see Applicant's specification, page 10, line 19, through page 11, line 1).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4-6, 14, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Munz, USPN 1,964,269.

Munz discloses a sprinkler apparatus comprising: a base (13) adapted for attachment to a sprinkler and for liquid passage therethrough, a unitary nozzle device mounted on the base, the unitary nozzle device comprising an integrally formed nozzle passage (20) and an integral reflector surface (25) disposed in spaced-apart confronting relation, the reflector surface being disposed to be impacted by a liquid jet from the nozzle passage, the unitary nozzle device providing dimensional accuracy between the nozzle and the reflector surface to enable accurate performance of the nozzle device and accurate repeatability in manufacture of the device, means

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(supply conduit 11) to supply liquid under pressure to the nozzle device, the liquid jet from the nozzle passage having a generally predetermined cross-sectional configuration, the reflector surface being adapted, positioned, and contoured to intercept and split the liquid jet to cause the reflected spray to be evenly distributed on both sides of a predetermined area to be sprayed, the spray being of a generally predetermined cross-sectional configuration similar to the cross-sectional configuration of the liquid jet from the nozzle, whereby a spray pattern of a generally predetermined cross-sectional configuration from the reflector surface is applied to the area to be sprayed. Munz also shows the reflector surface of the sprinkler apparatus as being convex in two directions substantially at right angles to each other, wherein variations in the convex reflector surface reflect portions of the spray to respective portions of the predetermined spray pattern (see Figures 1-7).

7. Claims 1-4, 14, 15, 17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by von Bernuth et al., USPN 4,168,033.

von Bernuth discloses a sprinkler apparatus comprising: a base (13) adapted for attachment to a sprinkler and for liquid passage therethrough, a unitary nozzle device (12) force-fitted (see column 2, lines 58-65) into an opening in the base to mount the nozzle device on the base in sealing engagement therewith, the unitary nozzle device comprising an integrally formed nozzle passage (25) and an integral reflector surface (27) disposed in spaced-apart confronting relation, the unitary nozzle device adapted by edge portions (28, 29, 30) thereof to be snapped-into opposed slots in an upper portion of the base to mount the nozzle device on the base (see column 4, lines 6-15), the reflector surface being disposed to be impacted by a liquid jet from the

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nozzle passage, the unitary nozzle device providing dimensional accuracy between the nozzle and the reflector surface to enable accurate performance of the nozzle device and accurate repeatability in manufacture of the device, means to supply liquid under pressure to the nozzle device through an open bottom end (24) of the nozzle device, the liquid jet from the nozzle passage having a generally predetermined cross-sectional configuration, the reflector surface being adapted, positioned, and contoured to intercept and split the liquid jet to cause the reflected spray to be evenly distributed on both sides of a predetermined area to be sprayed, the spray being of a generally predetermined cross-sectional configuration similar to the cross-sectional configuration of the liquid jet from the nozzle, whereby a spray pattern of a generally predetermined cross-sectional configuration from the reflector surface is applied to the area to be sprayed (see Figures 1-3).

8. Claims 1, 4, 14, 15, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Roberts, USPN 3,788,552.

Roberts shows a sprinkler apparatus comprising: a base (11) adapted for attachment to a sprinkler and for liquid passage therethrough, a unitary nozzle device (12) mounted on the base, the unitary nozzle device comprising an integrally formed nozzle passage (38) and an integral reflector surface (36) disposed in spaced-apart confronting relation, the reflector surface being disposed to be impacted by a liquid jet from the nozzle passage, the unitary nozzle device providing dimensional accuracy between the nozzle and the reflector surface to enable accurate performance of the nozzle device and accurate repeatability in manufacture of the device, means (water conduit 14) to supply liquid under pressure to the nozzle device, the liquid jet from the nozzle passage having a generally predetermined cross-sectional configuration, the reflector

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surface being adapted, positioned, and contoured to intercept and split the liquid jet to cause the reflected spray to be evenly distributed on both sides of a predetermined area to be sprayed, the spray being of a generally predetermined cross-sectional configuration similar to the cross-sectional configuration of the liquid jet from the nozzle, whereby a spray pattern of a generally predetermined cross-sectional configuration from the reflector surface is applied to the area to be sprayed. Roberts also shows the reflector surface of the sprinkler apparatus as being generally planar (see Figures 1-7).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Munz, in view of Applicant's specification.

Munz discloses all of the claimed elements as set forth in claim 14 and discussed above, however Munz does not teach preferably using computer equipment to create optimum geometric relations of parts, angles, and dimensions for effecting respective inclinations of spray portions for the sprinkler apparatus. On page 11, lines 6-15 of the specification of the present invention, by Applicant's own admission, "Such general procedure and computer operation are known to those versed in the art". Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine optimum geometric relations of parts,

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angles, and dimensions of the sprinkler apparatus of Munz, through the use of computer equipment, in order to effect optimum respective inclinations of spray portions for specific industrial applications.

11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over von Bernuth et al., and over Munz, and over Roberts.

von Bernuth, Munz, and Roberts disclose all of the claimed elements as set forth in claim 14, however von Bernuth, Munz, and Roberts each disclose their respective apparatus as being a single sprinkler apparatus, rather than a plurality of devices for providing an overall composite predetermined spray area pattern. It would have been obvious to one of ordinary skill in the art at the time the invention was made duplicate each respective sprinkler apparatus of von Bernuth, Munz, and Roberts, to create a whole sprinkler system having a desirable overall composite predetermined spray area pattern, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Allowable Subject Matter

12. Claims 8-13, 16, and 20 are allowed.

Response to Arguments

13. Applicant's arguments filed April 12, 2004 regarding contrasts between Applicant's claim 1 and the prior art, as well as Applicant's comments regarding computer utilization, have been fully considered but they are not persuasive.

In response to applicant's argument on page 23 of the amendment filed April 12, 2004, that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a combination of a specific discharge shape, generally non-circular, and a generally flat-type deflecting surface) are not recited in rejected claim 1 as argued. The Examiner further asserts that even if Applicant amended claim 1 to include a recitation regarding a "generally flat-type deflecting surface", such a recitation would result in an additional rejection of claim 1 under the first paragraph of 35 U.S.C. 112 for failing to comply with the written description requirement. Further still, Applicant's claims recite, "said nozzle having a passage adapted to provide a liquid jet of a generally predetermined cross-sectional configuration", "said spray being of generally predetermined cross-sectional configuration". Any device having a nozzle, which emits a liquid jet wherein the liquid jet impinges against a reflector/deflector surface, has a nozzle passage with a "generally predetermined cross-sectional configuration" and the spray pattern emitted from the reflector/deflector surface would also have a "generally predetermined cross-sectional configuration". In fact, one having ordinary skill in the art would recognize that any manufactured article would have a "generally predetermined cross-sectional configuration".

Further regarding Applicant's general statements on page 22, including that the prior art "involves continuously directed flow or spray paths which produce heavy side sprays. That is,

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water is never free-spraying. This presents difficulties in achieving clean water patterns”, it is not fully understood what Applicant is trying to argue here. Further, on page 22, Applicant states that the reference to von Bernuth does not teach a nozzle that can be quickly snapped into place and would require a great deal of labor and expense in order to replace. Examiner turns Applicant’s attention to column 2, lines 3-5 or the reference to von Bernuth, which states, “If the insert eventually becomes worn or it is necessary to change the spray pattern, the insert can be quickly and easily replaced”.

Regardless of any of the arguments applicant asserts on pages 22-23 with regard to differences between Applicant’s invention and the prior art of von Bernuth and Munz, the limitations as recited in Applicant’s claims 1-6, 14, 15, 17, and 19, clearly read on the prior art cited (see again appropriate paragraphs under *Claim Rejections 35 USC § 102* of this Office Action).

In short, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Further, with regard to Applicant’s argument on page 23 that “it is not at all anticipatory of Applicants’ concept and invention to utilize a computer to determine details of geometric relations of parts, dimensions, etc.”, the Examiner again turns Applicant’s attention to Applicant’s own specification (page 11, lines 14-15) where Applicant clearly admits that “Such general procedure and computer operation are known to those versed in the art”.

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Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W Gorman whose telephone number is 703-306-4205. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on 703-308-2087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Darren W Gorman
Examiner
Art Unit 3752

DWG
May 4, 2004



MICHAEL MAR
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700